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1/23/04

PATENT

ATTORNEY DOCKET NO.: 051480-5028

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	
Johannes ILG	Confirmation No.: 4858
Application No.: 09/640,552	Group Art Unit: 2635
Filed: October 30, 2000	Examiner: Yang, C. I.
For: A DEVICE FOR IDENTIFYING AUTHORIZATION AND TRIGGERING/ENABLING AN ACTION, PREFERABLY AN ELECTRONIC LOCKING DEVICE FOR MOTOR VEHICLES	

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
Arlington, VA 22202

APPELLANTS' BRIEF TRANSMITTAL FORM

1. Transmitted herewith is an Appellants' Brief Under 37 C.F.R. 1.192 (in triplicate), which is being submitted further to the Notice of Appeal filed 10 November 2003.

2. Additional papers enclosed.

   [ ] _____

3. Oral Hearing Under 37 C.F.R. 1.194

   [ ] Oral hearing is hereby requested.
   [ ] Fee under 37 C.F.R. 1.17(d) is enclosed.

4. Extension of time

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

[ ] Appellants petition for an extension of time, the fees for which are set out in 37 CFR 1.17(a)-(d), for the total number of months checked below:

Total months requested	Fee for extension	[fee for Small Entity]
[ ] one month	$ 110.00	$ 55.00
[ ] two months	$ 410.00	$ 205.00
[ ] three months	$ 930.00	$ 465.00
[ ] four months	$1,450.00	$ 725.00
[ ] five months	$1,970.00	$ 985.00

Extension of time fee due with this request: **$0.00**.

If an additional extension of time is required, please consider this a Petition therefor.

5. Fee Payment

[ ] No fee is to be paid at this time.

[X] The Commissioner is hereby authorized to charge **$330.00** for the filing of a brief in support of an appeal to Deposit Account No. 50-0310.

[X] The Commissioner is hereby authorized to charge any fees including fees due under 37 CFR 1.16 and 1.17 which may be required, or credit any overpayment to Deposit Account No. 50-0310.

Respectfully submitted,

MORGAN, LEWIS & BOCKIUS

By: Scott J. Anchell
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Dated: 12 January 2004

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
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In re Application of:	
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MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
Arlington, VA 22202

Sir:

APPELLANTS' BRIEF UNDER 37 C.F.R. § 1.192

This brief is in furtherance of the Notice of Appeal filed 10 November 2003, in connection with the above-identified application, and appealing the final rejections of claims 1-11 and 14-17 by the United States Patent and Trademark Office in a final Office Action dated 12 August 2003. The fee required under 37 C.F.R. § 1.17(c) is being filed concurrently herewith. This brief is transmitted in triplicate.

1. THE REAL PARTY IN INTEREST

The real party in interest in this appeal is Siemens Aktiengesellschaft.

2. RELATED APPEALS AND INTERFERENCES

Appellants are not aware of any other appeals or interferences that will directly affect, will be directly affected by, or will otherwise have a bearing on, the decision in this appeal.

3. STATUS OF THE CLAIMS

The status of the claims is as follows:

Claims canceled: none.

Claims withdrawn from consideration but not canceled: none.

Claims pending: 1-17.

Claims allowed: 12 and 13.

Claims rejected: 1-11 and 14-17.

Claims appealed: 1-11 and 14-17.

4. STATUS OF AMENDMENTS

No amendments were filed subsequent to final rejection.

5. SUMMARY OF THE INVENTION

The present invention relates to a device for identifying authorization and triggering/enabling an action, preferably an electronic locking device for motor vehicles. By way of background, vehicles manufactured at present often have a locking device in which a base unit, preferably a transceiver, is provided in the vehicle and the vehicle driver carries a key unit that additionally includes a transmitter (page 1, lines 15-21). When the transmitter on the key unit is activated, information, e.g., a bit sequence, is transmitted to the base unit, which compares the transmitted information to stored predetermined information and, if they agree, triggers a locking operation, e.g., unlocks a door providing access to a passenger compartment of

the vehicle (page 2, lines 22-25). However, there is the risk that the transmitted information can be "monitored" and an unauthorized person can attain access to the vehicle (page 1, lines 25-26). Various techniques have been proposed to address this risk, however, other disadvantages, e.g., concerning power consumption, have arisen (page 1, line 27, to page 3, line 11).

According to the present invention, a device for identifying authentic information and enabling an action includes a base unit 1 (page 6, line 6, to page 7, line 30) and a key unit 100 (page 7, line 31, to page 8, line 22) that can communicate with one another (page 8, line 23, to page 9, line 6). The base unit 1 detects the identity information of the key unit 100, compares it with a predetermined identity information and, if the detected identity information matches the predetermined identity information, triggers or enables the action (page 10, line 30, to page 11, line 10). The base unit 1 and the key unit 100 each include accurately-timed digital generators 23,116 that run essentially synchronously (page 11, lines 11-32), the digital output information of which change at predetermined constant or non-constant time intervals (page 7, lines 17-24). The key unit 100 combines the respective information of the digital generator 116 with a stored identification code in accordance with a predetermined coding rule to form a coded information item (page 9, lines 16-18). The base unit 1 codes the predetermined identity information with the current information of its own digital generator 23 by also using the coding rule known to it, and compares this coded information with the coded information communicated by the key unit 100 (page 10, lines 12-17). If the base unit 1 detects identity of the coded information, the relevant action is triggered. The base unit 1 sends out a signal either continuously or following a request signal (page 9, lines 23-28), and the key unit 100 switches an antenna 120 into an essentially matched state and a mismatched state depending on the coded information by means of a

controllable electronic switch 108 (page 8, lines 28-30), whereupon the antenna 120 reflects the received signal in accordance with the time variation of the coded information (page 8, line 30, to page 9, line 2). The base unit 1 receives and evaluates the reflected signal.

6. ISSUES

The seven issues presented on appeal are as follows:

1) whether claims 1 and 11 are unpatentable under 35 U.S.C. § 103 over U.S. Patent No. 6,265,963 to Wood, Jr. (Wood) in view of U.S. Patent No. 5,412,379 to Waraksa et al. (Waraksa), and further in view of U.S. Patent No. 6,130,623 to MacLellan et al. (MacLellan);

2) whether claims 2, 4-6, 10 and 17 are unpatentable under 35 U.S.C. § 103 over Wood, Waraksa and MacLellan, as applied to claim 1, and further in view of U.S. Patent No. 6,169,474 to Greeff et al. (Greeff);

3) whether claims 3 and 9 are unpatentable under 35 U.S.C. § 103 over Wood, Waraksa, MacLellan and Greeff, as applied to claim 2, and further in view of U.S. Patent No. 3,750,168 to Schrader et al. (Schrader);

4) whether claims 7 and 8 are unpatentable under 35 U.S.C. § 103 over Wood, Waraksa, MacLellan and Greeff, as applied to claim 2, and further in view of U.S. Patent No. 5,710,548 to LeMense;

5) whether claim 14 is unpatentable under 35 U.S.C. § 103 over Wood, Waraksa and MacLellan, as applied to claim 1, and further in view of U.S. Patent No. 5,461,386 to Knebelkamp;

6) whether claim 15 is unpatentable under 35 U.S.C. § 103 over Wood, Waraksa and MacLellan, as applied to claim 1, and further in view of U.S. Patent No. 5,838,257 to Lambropoulos; and

7) whether claim 16 is unpatentable under 35 U.S.C. § 103 over Wood, Waraksa and MacLellan, as applied to claim 1, and further in view of U.S. Patent No. 5,157,389 to Kurozu.

7. GROUPINGS OF CLAIMS

I. Independent claim 1 and its dependent claims 11, 14 and 15 stand or fall together.

II. Dependent claims 2, 4-6, 10 and 17 stand or fall separately.

III. Dependent claims 3 and 9 stand or fall separately.

IV. Dependent claims 7 and 8 stand or fall separately.

V. Dependent claim 16 stands or falls separately.

8. ARGUMENTS

The rejection of claims 1-11 and 14-17 under 35 U.S.C. § 103 should be reversed because each of these claims defines subject matter that is unobvious over the applied prior art.

I. Claims 1, 11, 14 and 15 recite subject matter that is unobvious

Claim 1 recites a combination of features including "the base unit and the key unit include respective accurately-timed digital generators running essentially synchronously with respect to one another and generating digital output information that changes at predetermined time intervals," "the base unit transmitting a radio-frequency carrier signal," "the key unit combining the digital information of the key unit digital generator with a stored identification code in accordance with a predetermined coding rule to form a coded information item," "the

key unit including a controllable electronic switch switching an antenna between an essentially matched state and a mismatched state in accordance with the coded information item, and the antenna reflecting the received radio-frequency carrier signal in accordance with the time changing digital coded information," and "the base unit detecting the information and comparing it with predetermined information, the base unit enabling the action when the detected information matches the predetermined information."

Thus, according to the present invention, the base unit 1 emits a signal that is encoded with "digital output information that changes at predetermined time intervals." The key unit 100 receives the signal from the base unit 1, and also has a timer that encodes a response signal. The key unit 100 reflects the received signal by the antenna of the key unit switching the antenna to a matched or a mismatched state depending on the code of the time unit, and the signal is encoded by means of its accurately-timed digital generator, which is running essentially synchronously with respect to the digital generator of the base unit 1. In the base unit 1, the information of the key unit 100 is retrieved and compared with the essentially synchronous time. When there is at least extensive agreement (inclusive of some tolerance limits), an action is triggered or an action-enable is granted.

In the foreground of the present invention, therefore, is the fact that the signals are encoded with synchronous time information. In the event the two time data are no longer synchronous, acknowledgement can be sent to the key unit or from the key unit to the base unit, in order to restore synchronization.

In contrast to the present invention, Wood shows a process for wireless communication between an interrogator and a device/transponder 12 that is arranged at an object. This process is

essentially used to track the location and movement of the object. Wood's interrogation signal is transmitted and is received by device 12, in response to which device 12 produces a signal 29 that is sent back to the interrogator (column 5, lines 11 through 23). Device 12 can be operated in back-scatter mode in which the signals received are reflected with modulation. Thus, Wood shows only that the back-scatter mode is therefore known in which the antenna is switched to the matched and the mismatched state in order to reflect the signals. There is no showing of the exchange of synchronous time information.

Waraksa shows a keyless entry system that works with a rolling code. A key (beacon) constantly sends out signals that are taken from a cyclic series of code signals. If these signals are received by the vehicle (i.e., the key is in the vicinity of the vehicle), the signal is decoded and checked for authorization. For this purpose the same cyclic series must be known in the vehicle. If the authorization checks out, an enable is granted or locks are unlocked. In Waraksa, the emission of the signal is performed via a so-called "clock code" that changes continuously when there is an interrupt (column 8, lines 46 through 49, and column 10, line 33 onward). For the receiver in the vehicle to be able to receive the signal, it must be set synchronous to the key. For this purpose, it is always synchronized in a unidirectional direction, i.e., from the key to the vehicle.

Waraksa's unidirectional transmission, i.e., from the key to the lock, is in contrast to the present invention, which is a bi-directional system. Furthermore, in the present invention, the signals are encoded with synchronous time information and compared with the pertinent mutual synchronous time information. That is to say, both the signals emitted by Appellant's base unit

in the vehicle and the signals emitted by the key unit are encoded with synchronous time information.

It is respectfully submitted that the combination of Wood and Waraksa is improper inasmuch as Wood involves a bi-directional system while Waraksa involves a unidirectional system. In any event, neither Wood nor Waraksa show encoding by means of synchronous time information, as required in the present invention.

MacLellan is cited for allegedly showing two devices that simultaneously generate and compare coded information items, Knebelkamp is cited for allegedly showing an interrogator that transits a signal either continuously or selectively, and Lambropoulos is cited for allegedly showing a transceiver or base unit that periodically transmits an interrogation signal. However, again there is no showing of encoding by means of synchronous time information, as required in the present invention, and it is respectfully submitted that any combination of Wood, Waraksa, MacLellan, Knebelkamp and Lambropoulos fail to suggest all of the features of the present invention.

For at least these reasons, it is respectfully submitted that the rejections 35 U.S.C. § 103 of claims 1, 11, 14 and 15 should be reversed.

II. Claims 2, 4-6, 10 and 17 recite subject matter that is unobvious

This group of claims is believed to stand or fall separately because different combinations of features are claimed.

Claim 2 recites a combination of features including "the base unit and the key unit include respective accurately-timed digital generators running essentially synchronously with respect to one another and generating digital output information that changes at predetermined

time intervals," "the base unit includes a central evaluating and control unit driving a radio-frequency generator , the radio-frequency generator generates the radio-frequency carrier signal that is connected to an antenna by a power amplifier," "the key unit combining the digital information of the key unit digital generator with a stored identification code in accordance with a predetermined coding rule to form a coded information item," "the key unit including a controllable electronic switch switching an antenna between an essentially matched state and a mismatched state in accordance with the coded information item, and the antenna reflecting the received radio-frequency carrier signal in accordance with the time changing digital coded information," and "the base unit detecting the information and comparing it with predetermined information, the base unit enabling the action when the detected information matches the predetermined information."

Thus, according to the present invention, the base unit 1 includes a central evaluating and control unit that drives a radio-frequency generator for generating a radio-frequency carrier signal that is encoded with "digital output information that changes at predetermined time intervals." The key unit 100 receives the signal from the base unit 1, and also has a timer that encodes a response signal. The key unit 100 reflects the received signal by the antenna of the key unit switching the antenna to a matched or a mismatched state depending on the code of the time unit, and the signal is encoded by means of its accurately-timed digital generator, which is running essentially synchronously with respect to the digital generator of the base unit 1. In the base unit 1, the information of the key unit 100 is retrieved and compared with the essentially synchronous time. When there is at least extensive agreement (inclusive of some tolerance limits), an action is triggered or an action-enable is granted.

Again, in the foreground of the present invention, therefore, is the fact that the signals are encoded with synchronous time information. In the event the two time data are no longer synchronous, acknowledgement can be sent to the key unit or from the key unit to the base unit, in order to restore synchronization.

In contrast to the present invention, Wood shows a process for wireless communication between an interrogator and a device/transponder 12 that is arranged at an object. This process is essentially used to track the location and movement of the object. Wood's interrogation signal is transmitted and is received by device 12, in response to which device 12 produces a signal 29 that is sent back to the interrogator (column 5, lines 11 through 23). Device 12 can be operated in back-scatter mode in which the signals received are reflected with modulation. Thus, Wood shows only that the back-scatter mode is therefore known in which the antenna is switched to the matched and the mismatched state in order to reflect the signals. There is no showing of the exchange of synchronous time information.

Waraksa shows a keyless entry system that works with a rolling code. A key (beacon) constantly sends out signals that are taken from a cyclic series of code signals. If these signals are received by the vehicle (i.e., the key is in the vicinity of the vehicle), the signal is decoded and checked for authorization. For this purpose the same cyclic series must be known in the vehicle. If the authorization checks out, an enable is granted or locks are unlocked. In Waraksa, the emission of the signal is performed via a so-called "clock code" that changes continuously when there is an interrupt (column 8, lines 46 through 49, and column 10, line 33 onward). For the receiver in the vehicle to be able to receive the signal, it must be set synchronous to the key.

For this purpose, it is always synchronized in a unidirectional direction, i.e., from the key to the vehicle.

Waraksa's unidirectional transmission, i.e., from the key to the lock, is in contrast to the present invention, which is a bi-directional system. Furthermore, in the present invention, the signals are encoded with synchronous time information and compared with the pertinent mutual synchronous time information. That is to say, both the signals emitted by Appellant's base unit in the vehicle and the signals emitted by the key unit are encoded with synchronous time information.

It is respectfully submitted that the combination of Wood and Waraksa is improper inasmuch as Wood involves a bi-directional system while Waraksa involves a unidirectional system. In any event, neither Wood nor Waraksa show encoding by means of synchronous time information, as required in the present invention.

MacLellan is cited for allegedly showing two devices that simultaneously generate and compare coded information items, and Greeff is cited for allegedly showing a power amplifier that minimizes signal losses and improves efficiency. However, there is no showing of encoding by means of synchronous time information and a central evaluating and control unit that drives a radio-frequency generator for generating a radio-frequency carrier signal, as required in the present invention, and it is respectfully submitted that any combination of Wood, Waraksa, MacLellan and Greeff fail to suggest all of the features of the present invention.

For at least these reasons, it is respectfully submitted that the rejections 35 U.S.C. § 103 of claims 2, 4-6, 10 and 17 should be reversed.

III. Claims 3 and 9 recite subject matter that is unobvious

This group of claims is believed to stand or fall separately because yet different combinations of features are claimed.

Claim 3 recites a combination of features including "the base unit and the key unit include respective accurately-timed digital generators running essentially synchronously with respect to one another and generating digital output information that changes at predetermined time intervals," "the base unit includes a central evaluating and control unit driving a radio-frequency generator, the radio-frequency generator generates the radio-frequency carrier signal that is connected to an antenna by a power amplifier," "the radio-frequency carrier signal is frequency-modulated with a triangular function," "the key unit combining the digital information of the key unit digital generator with a stored identification code in accordance with a predetermined coding rule to form a coded information item," "the key unit including a controllable electronic switch switching an antenna between an essentially matched state and a mismatched state in accordance with the coded information item, and the antenna reflecting the received radio-frequency carrier signal in accordance with the time changing digital coded information," and "the base unit detecting the information and comparing it with predetermined information, the base unit enabling the action when the detected information matches the predetermined information."

Thus, according to the present invention, the base unit 1 includes a central evaluating and control unit that drives a radio-frequency generator for generating a triangular-function frequency-modulated radio-frequency carrier signal that is encoded with "digital output information that changes at predetermined time intervals." The key unit 100 receives the signal

from the base unit 1, and also has a timer that encodes a response signal. The key unit 100 reflects the received signal by the antenna of the key unit switching the antenna to a matched or a mismatched state depending on the code of the time unit, and the signal is encoded by means of its accurately-timed digital generator, which is running essentially synchronously with respect to the digital generator of the base unit 1. In the base unit 1, the information of the key unit 100 is retrieved and compared with the essentially synchronous time. When there is at least extensive agreement (inclusive of some tolerance limits), an action is triggered or an action-enable is granted.

Again, in the foreground of the present invention, therefore, is the fact that the signals are encoded with synchronous time information. In the event the two time data are no longer synchronous, acknowledgement can be sent to the key unit or from the key unit to the base unit, in order to restore synchronization.

In contrast to the present invention, Wood shows a process for wireless communication between an interrogator and a device/transponder 12 that is arranged at an object. This process is essentially used to track the location and movement of the object. Wood's interrogation signal is transmitted and is received by device 12, in response to which device 12 produces a signal 29 that is sent back to the interrogator (column 5, lines 11 through 23). Device 12 can be operated in back-scatter mode in which the signals received are reflected with modulation. Thus, Wood shows only that the back-scatter mode is therefore known in which the antenna is switched to the matched and the mismatched state in order to reflect the signals. There is no showing of the exchange of synchronous time information.

Waraksa shows a keyless entry system that works with a rolling code. A key (beacon) constantly sends out signals that are taken from a cyclic series of code signals. If these signals are received by the vehicle (i.e., the key is in the vicinity of the vehicle), the signal is decoded and checked for authorization. For this purpose the same cyclic series must be known in the vehicle. If the authorization checks out, an enable is granted or locks are unlocked. In Waraksa, the emission of the signal is performed via a so-called "clock code" that changes continuously when there is an interrupt (column 8, lines 46 through 49, and column 10, line 33 onward). For the receiver in the vehicle to be able to receive the signal, it must be set synchronous to the key. For this purpose, it is always synchronized in a unidirectional direction, i.e., from the key to the vehicle.

Waraksa's unidirectional transmission, i.e., from the key to the lock, is in contrast to the present invention, which is a bi-directional system. Furthermore, in the present invention, the signals are encoded with synchronous time information and compared with the pertinent mutual synchronous time information. That is to say, both the signals emitted by Appellant's base unit in the vehicle and the signals emitted by the key unit are encoded with synchronous time information.

It is respectfully submitted that the combination of Wood and Waraksa is improper inasmuch as Wood involves a bi-directional system while Waraksa involves a unidirectional system. In any event, neither Wood nor Waraksa show encoding by means of synchronous time information, as required in the present invention.

MacLellan is cited for allegedly showing two devices that simultaneously generate and compare coded information items, Greeff is cited for allegedly showing a power amplifier that

minimizes signal losses and improves efficiency, and Schrader is cited for allegedly showing a triangular function to frequency modulate a carrier frequency so as to enable an interrogator to determine the location of a device and to recognize the response of the device. However, there is no showing of encoding by means of synchronous time information and a radio-frequency carrier signal that is frequency-modulated with a triangular function, as required in the present invention, and it is respectfully submitted that any combination of Wood, Waraksa, MacLellan, Greeff and Schrader fails to suggest all of the features of the present invention.

For at least these reasons, it is respectfully submitted that the rejections 35 U.S.C. § 103 of claims 3 and 9 should be reversed.

IV. Claims 7 and 8 recite subject matter that is unobvious

This group of claims is believed to stand or fall separately because yet different combinations of features are claimed.

Claim 7 recites a combination of features including "the base unit and the key unit include respective accurately-timed digital generators running essentially synchronously with respect to one another and generating digital output information that changes at predetermined time intervals," "the base unit includes a demodulator," "the base unit includes a central evaluating and control unit driving a radio-frequency generator, the radio-frequency generator generates the radio-frequency carrier signal that is connected to an antenna by a power amplifier," "the evaluating and control unit determines a distance between the base unit and the key unit from the output signal from the demodulator unit," "the key unit combining the digital information of the key unit digital generator with a stored identification code in accordance with a predetermined coding rule to form a coded information item," "the key unit including a

controllable electronic switch switching an antenna between an essentially matched state and a mismatched state in accordance with the coded information item, and the antenna reflecting the received radio-frequency carrier signal in accordance with the time changing digital coded information," and "the base unit detecting the information and comparing it with predetermined information, the base unit enabling the action when the detected information matches the predetermined information."

Thus, according to the present invention, the base unit 1 includes a central evaluating and control unit that has a demodulating unit and that drives a radio-frequency generator for generating radio-frequency carrier signal that is encoded with "digital output information that changes at predetermined time intervals." The key unit 100 receives the signal from the base unit 1, and also has a timer that encodes a response signal. The key unit 100 reflects the received signal by the antenna of the key unit switching the antenna to a matched or a mismatched state depending on the code of the time unit, and the signal is encoded by means of its accurately-timed digital generator, which is running essentially synchronously with respect to the digital generator of the base unit 1. In the base unit 1, the information of the key unit 100 is retrieved and compared with the essentially synchronous time. When there is at least extensive agreement (inclusive of some tolerance limits), an action is triggered or an action-enable is granted. Additionally, a distance measurement between the base unit 1 and the key unit 100 is determined by the output signal from the demodulator.

Again, in the foreground of the present invention, therefore, is the fact that the signals are encoded with synchronous time information. In the event the two time data are no longer

synchronous, acknowledgement can be sent to the key unit or from the key unit to the base unit, in order to restore synchronization.

In contrast to the present invention, Wood shows a process for wireless communication between an interrogator and a device/transponder 12 that is arranged at an object. This process is essentially used to track the location and movement of the object. Wood's interrogation signal is transmitted and is received by device 12, in response to which device 12 produces a signal 29 that is sent back to the interrogator (column 5, lines 11 through 23). Device 12 can be operated in back-scatter mode in which the signals received are reflected with modulation. Thus, Wood shows only that the back-scatter mode is therefore known in which the antenna is switched to the matched and the mismatched state in order to reflect the signals. There is no showing of the exchange of synchronous time information.

Waraksa shows a keyless entry system that works with a rolling code. A key (beacon) constantly sends out signals that are taken from a cyclic series of code signals. If these signals are received by the vehicle (i.e., the key is in the vicinity of the vehicle), the signal is decoded and checked for authorization. For this purpose the same cyclic series must be known in the vehicle. If the authorization checks out, an enable is granted or locks are unlocked. In Waraksa, the emission of the signal is performed via a so-called "clock code" that changes continuously when there is an interrupt (column 8, lines 46 through 49, and column 10, line 33 onward). For the receiver in the vehicle to be able to receive the signal, it must be set synchronous to the key. For this purpose, it is always synchronized in a unidirectional direction, i.e., from the key to the vehicle.

Waraksa's unidirectional transmission, i.e., from the key to the lock, is in contrast to the present invention, which is a bi-directional system. Furthermore, in the present invention, the signals are encoded with synchronous time information and compared with the pertinent mutual synchronous time information. That is to say, both the signals emitted by Appellant's base unit in the vehicle and the signals emitted by the key unit are encoded with synchronous time information.

It is respectfully submitted that the combination of Wood and Waraksa is improper inasmuch as Wood involves a bi-directional system while Waraksa involves a unidirectional system. In any event, neither Wood nor Waraksa show encoding by means of synchronous time information, as required in the present invention.

MacLellan is cited for allegedly showing two devices that simultaneously generate and compare coded information items, Greeff is cited for allegedly showing a power amplifier that minimizes signal losses and improves efficiency, and LeMense is cited for allegedly showing first and second antennas, and allegedly showing a spatial differentiator and a control unit that form an evaluating and control unit. However, there is no showing of encoding by means of synchronous time information and a distance determination between the base and key units, as required in the present invention, and it is respectfully submitted that any combination of Wood, Waraksa, MacLellan, Greeff and LeMense fails to suggest all of the features of the present invention.

For at least these reasons, it is respectfully submitted that the rejections 35 U.S.C. § 103 of claims 7 and 8 should be reversed.

V. Claim 16 recites subject matter that is unobvious

This group of claims is believed to stand or fall separately because yet different combinations of features are claimed.

Claim 16 recites a combination of features including "the base unit and the key unit include respective accurately-timed digital generators running essentially synchronously with respect to one another and generating digital output information that changes at predetermined time intervals," "the base unit transmits the radio-frequency carrier signal following a request signal," "the key unit combining the digital information of the key unit digital generator with a stored identification code in accordance with a predetermined coding rule to form a coded information item," "the key unit including a controllable electronic switch switching an antenna between an essentially matched state and a mismatched state in accordance with the coded information item, and the antenna reflecting the received radio-frequency carrier signal in accordance with the time changing digital coded information," and "the base unit detecting the information and comparing it with predetermined information, the base unit enabling the action when the detected information matches the predetermined information."

Thus, according to the present invention, the base unit 1 emits, following a request signal, a signal that is encoded with "digital output information that changes at predetermined time intervals." The key unit 100 receives the signal from the base unit 1, and also has a timer that encodes a response signal. The key unit 100 reflects the received signal by the antenna of the key unit switching the antenna to a matched or a mismatched state depending on the code of the time unit, and the signal is encoded by means of its accurately-timed digital generator, which is running essentially synchronously with respect to the digital generator of the base unit 1. In the

base unit 1, the information of the key unit 100 is retrieved and compared with the essentially synchronous time. When there is at least extensive agreement (inclusive of some tolerance limits), an action is triggered or an action-enable is granted.

In the foreground of the present invention, therefore, is the fact that the signals are encoded with synchronous time information. In the event the two time data are no longer synchronous, acknowledgement can be sent to the key unit or from the key unit to the base unit, in order to restore synchronization.

In contrast to the present invention, Wood shows a process for wireless communication between an interrogator and a device/transponder 12 that is arranged at an object. This process is essentially used to track the location and movement of the object. Wood's interrogation signal is transmitted and is received by device 12, in response to which device 12 produces a signal 29 that is sent back to the interrogator (column 5, lines 11 through 23). Device 12 can be operated in back-scatter mode in which the signals received are reflected with modulation. Thus, Wood shows only that the back-scatter mode is therefore known in which the antenna is switched to the matched and the mismatched state in order to reflect the signals. There is no showing of the exchange of synchronous time information.

Waraksa shows a keyless entry system that works with a rolling code. A key (beacon) constantly sends out signals that are taken from a cyclic series of code signals. If these signals are received by the vehicle (i.e., the key is in the vicinity of the vehicle), the signal is decoded and checked for authorization. For this purpose the same cyclic series must be known in the vehicle. If the authorization checks out, an enable is granted or locks are unlocked. In Waraksa, the emission of the signal is performed via a so-called "clock code" that changes continuously

when there is an interrupt (column 8, lines 46 through 49, and column 10, line 33 onward). For the receiver in the vehicle to be able to receive the signal, it must be set synchronous to the key. For this purpose, it is always synchronized in a unidirectional direction, i.e., from the key to the vehicle.

Waraksa's unidirectional transmission, i.e., from the key to the lock, is in contrast to the present invention, which is a bi-directional system. Furthermore, in the present invention, the signals are encoded with synchronous time information and compared with the pertinent mutual synchronous time information. That is to say, both the signals emitted by Appellant's base unit in the vehicle and the signals emitted by the key unit are encoded with synchronous time information.

It is respectfully submitted that the combination of Wood and Waraksa is improper inasmuch as Wood involves a bi-directional system while Waraksa involves a unidirectional system. In any event, neither Wood nor Waraksa show encoding by means of synchronous time information, as required in the present invention.

MacLellan is cited for allegedly showing two devices that simultaneously generate and compare coded information items, and Kurozu is cited for allegedly showing a control unit that transmits an interrogation signal after a door request switch sends a request signal to the control unit. However, again there is no showing of encoding by means of synchronous time information, as required in the present invention, and it is respectfully submitted that the combination of Wood, Waraksa, MacLellan and Kurozu fail to suggest all of the features of the present invention.

For at least these reasons, it is respectfully submitted that the rejection 35 U.S.C. § 103 of claim 16 should be reversed.

CONCLUSION

In view of the foregoing, Appellants respectfully request the reversal of the Examiner's rejections and allowance of claims 1-11 and 14-17. If there are any other fees due in connection with the filing of this Brief, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our deposit account.

Respectfully submitted,

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9. APPENDIX

Appealed claims ordered by number.

1. A device for identifying authentic information and enabling an action, comprising:

a) a base unit and a key unit transmitting information to the base unit, the base unit detecting the information and comparing it with predetermined information, the base unit enabling the action when the detected information matches the predetermined information;

b) the base unit and the key unit include respective accurately-timed digital generators running essentially synchronously with respect to one another and generating digital output information that changes at predetermined time intervals;

c) the key unit combining the digital information of the key unit digital generator with a stored identification code in accordance with a predetermined coding rule to form a coded information item;

d) the base unit using the predetermined coding rule to code the predetermined information with the digital information of the base unit digital generator to form a predetermined coded information item, and comparing the predetermined coded information item with the coded information item communicated by the key unit, the base unit enabling the action when the coded information item communicated matches the predetermined coded information item;

e) the base unit transmitting a radio-frequency carrier signal;

f) the key unit including a controllable electronic switch switching an antenna between an essentially matched state and a mismatched state in accordance with the coded

information item, and the antenna reflecting the received radio-frequency carrier signal in accordance with the time changing digital coded information; and

g) the base unit receiving and evaluating the reflected signal.

2. The device as claimed in claim 1, wherein the base unit includes a central evaluating and control unit driving a radio-frequency generator , the radio-frequency generator generates the radio-frequency carrier signal that is connected to an antenna by a power amplifier.

3. The device as claimed in claim 2, wherein the evaluating and control unit drives the frequency generator in such a manner that the radio-frequency carrier signal is frequency-modulated with a triangular function.

4. The device as claimed in claim 2, wherein the radio-frequency carrier signal is supplied to the antenna by a circulator, the circulator supplying essentially all power of the radio-frequency carrier signal of the antenna.

5. The device as claimed in claim 4, wherein the base unit includes a demodulator unit supplied by the circulator with a signal received by the antenna, the demodulator receiving essentially all power of the signal received by the antenna, and the demodulator unit supplying an output signal to the central evaluating and control unit.

6. The device as claimed in claim 5, wherein the demodulator unit is additionally supplied with the carrier signal of the radio-frequency generator and the demodulator unit correlates the carrier signal with the signal received by the antenna for the purpose of demodulation.

7. The device as claimed in claim 5, wherein the evaluating and control unit determines a distance between the base unit and the key unit from the output signal from the demodulator unit.

8. The device as claimed in claim 7, wherein the base unit includes a plurality of antennas, the base unit determining the distance between the key unit and each of the pluralities of antennas, and determining from each distance a position of the key unit with respect to the base unit to enable the action.

9. The device as claimed in claim 3, wherein the evaluating and control unit separates a number of superimposed signals from a plurality of the key units at different distances, the evaluating and control unit separating the superimposed signals from one another by evaluating a displacement spectra due to the different distances from the base unit and evaluating collisions of the received information items.

10. The device as claimed in claim 2, wherein a modulator is provided between the radio-frequency generator and the antenna, the modulator receiving a data signal from the evaluating and control unit.

11. The device as claimed in claim 1, wherein the key unit includes a central evaluating and control unit controlling the key unit digital generator, an identification code memory, a coding unit, and a ring-connected shift register, the shift register being loaded at predetermined time intervals with a different coded information item generated by the coding unit using the digital information from the key unit digital generator and contents of the identification code memory, and the shift register cyclically reading out the different coded information items.

14. The device as claimed in claim 1, wherein the base unit transmits the radio-frequency carrier signal continuously.

15. The device as claimed in claim 1, wherein the base unit transmits the radio-frequency carrier signal at predetermined time intervals.

16. The device as claimed in claim 1, wherein the base unit transmits the radio-frequency carrier signal following a request signal.

17. The device according to claim 10, wherein the modulator is a multiplier.